

ON AN UNPUBLISHED ITALIAN MS. OF
THE SEVENTEENTH CENTURY

NOT long ago I acquired an MS., entitled *Estratto del Libro, segnato A; di Prete Antonio Neri*, which I think is of sufficient interest to merit a short notice in these pages. In the first place, let us make ourselves familiar with the life and writings of the priest Antonio Neri. The greater number of biographical dictionaries do not even mention him, but the "Biographie Universelle," and Hoëfer's "Nouvelle Biographie Générale" are exceptions, both giving a short account of him. As to the time of his birth, I can nowhere find a more definite date than *vers le milieu du seizième siècle*, while Poggen-dorff alone mentions the year of his death, which occurred in 1614. Antonio Neri was born in Florence, and was educated for a priest; but he appears never to have undertaken priestly duties, preferring to devote his time to chemical and physical studies. For the purpose of extending his knowledge in this direction, he travelled all over Europe, collecting scientific *secrets*, as they were then called, and he succeeded in amassing a large number of these. He visited the principal laboratories of Europe, and resided for some length of time in Antwerp, where he wrote his treatise on the art of colouring glass. He did not hesitate to work as a common assistant, performing the most menial operations of the laboratory, when he found it impossible to gain access to the secrets he sought by other means.

The period in which Antonio Neri lived coincides most nearly with that of his countryman Baptista Porta (born 1537, died 1615). Paracelsus died about the time of the birth of Neri; Jerome Cardan died when he was a boy; Van Helmont was thirty-five years old when Neri wrote his "L'Arte Vetraria;" Galileo and Francis Bacon had not reached the summit of their fame; Robert Fludd was busy with his "Historia Macrocosmi;" Glauber was a boy, Kunkel an infant, Becher was unborn. The Paracelsian iatro-chemistry was making way, Crolius was supporting it, while Libavius was the leader of the opposition; the famous "Tyrocinium Chymicum," of Beguinus, was about to appear; the "Academia Secretorum Naturæ," founded by Baptista Porta, had just been dissolved by Pope Paul V., on the ground that magical and unlawful arts were practised by its members; but the proceedings of this first of the scientific societies remained in the treatise "Magiæ Naturalis," which was the most popular scientific book of the period. Such was the state of the scientific world when Neri laboured and wrote.

The only work ever published by Neri was the treatise on glass-making, to which I have referred. This is a small quarto of 114 pages, and is entitled: "L'Arte Vetraria distinta, in libri sette del R. P. Antonio Neri Fiorentino. In Firenze, 1612. Con licenza di Superiori."

The order of the ecclesiastical authorities for printing this work is conveyed in no less than seven forms, which are signed, countersigned, attested, and endorsed, and bear dates ranging between March 30 and April 7, 1612. This excessive scrutiny may appear strange at first sight, but let us glance for a moment at collateral facts. The "Index Expurgatorius" had been established by Paul IV. in 1559, and in the very first issue no less than sixty-one printers had been condemned, and the reading of works which issued from their presses for-

bidden. Now, there was still greater need for caution on the part of the Church; for had not a certain fellow-countryman of Neri, named Gordano Bruno, recently propagated all sorts of heresies in his "Cena de li Ceneri," and had he not suffered death for his temerity? And was there not a contemporary and countryman of Neri, whilom professor of mathematics in the university of Padua, who had shown particular relish for the doctrines of Copernicus, and a particular disrelish for those of Ptolemy and Aristotle, and altogether an insufficiency of respect for the Church? Thus it was that the utterly inoffensive "L'Arte Vetraria" came to undergo so much scrutiny, and after having been certified to contain nothing *contra fidem aut bonos mores*, to be printed with *Con licenza di Superiori* on the title-page.

At the same time, I do not at all mean to assert that scrutiny was unnecessary in regard to the scientific works of this period; for although they did not often contain anything *contra fidem*, they very frequently did contain a good deal *contra bonos mores*, in the form of invocations wherewith to raise a familiar demon, recipes for love philtres, and for ingenious draughts for ridding wives of jealous husbands, while the more philosophical "Elixir Vitæ" sometimes required the blood of a new-born babe. I recently met with an alchemical MS., evidently of some rarity, for it was written on vellum, and the binding showed that it had once been in the library of a Doge of Venice: *Recipe Sanguinis Humani* were the first words that presented themselves to the eye. Again, Beguinus says: "*Recipe quantitatem satis magnam sanguinis virorum sanorum, in flore ætatis constitutorum, pone in vase circulatorio, justæ capacitatis, in B. M. continue bulliens, donec draco propriam caudam devoraverit.*" So that, after all, Alexandre Dumas has not given us such a very exaggerated character in the person of the Alchemist Althotas in his "Mémoires d'un Médecin." As to the matter of remedies, I find the following in an MS. in the Sloane Collection (probably so late as the first half of the 17th century): "Rock-crystal, mixed with sublimed arsenic, is an excellent medicine; in fact, you need not any other medicine . . . it being taught a witch by a demon, named Rachiel, who was of ye order of Cherubins." The quaintness and *naïveté* of this assertion are quite refreshing; now, whether "you need not any other medicine" because the remedy had the sanction of both a witch and a demon, or because powdered rock-crystal and sublimed arsenic had been found by the asserter to be peculiarly adapted for internal administration, we will not pretend to decide; but, surely, so-called scientific books sometimes required examination in the age of the priest Antonio Neri.

Let us, now that we know something of its author, turn our attention to the MS., *Estratto del Libro, segnato A; di Prete Antonio Neri*. There is good reason to believe that the matter of this MS. was extracted by some seventeenth-century chemist from a larger MS. of Neri, of which he speaks in the preface to "L'Arte Vetraria," and which he had intended to publish had his life only been spared.

The text is Italian, but the work cannot be said to be "writ in choice Italian;" it is rugged, and, of necessity, full of technical terms, and it sometimes passes into a curious kind of Latinized Italian. As to the contents,

we have extracts from five of Neri's books: from the book *segniato A*, 155 pages; from *B*, 78 pages; from *D*, 5 pages; from *E*, 13 pages; and from *F*, 6 pages. Between *E* and *F* are inserted 26 pages of "*Operationi Copiate da un libro antico qui in Pisa*;" also 8 pages about the *Green Lion*, and 10 pages of extremely mystical and unintelligible matter, replete with symbols and Arabic words concerning a certain *Donum Dei*.

An account of the subject-matter of the extracts from the book designated *A* will, I think, give a fair idea of that of the whole MS. In the first place, we have an account of mercury, to which metal is assigned no less than thirty-five different names, and twenty-two symbols. The Eastern element, then very apparent in chemistry, is noticeable in such names as Chaibach, Azoch, and Baruchet. Various *fixationi* of mercury are described, and the formation of some of its compounds. Gold and silver are next discussed; the latter has fifteen names and ten symbols. The fixation and calcination of gold, the calcination of silver, the solution and tincture of silver, and the conversion of silver into gold are then described. Venus (copper) follows, among the fifteen names of which are Tubalchain, Marchaal, and Cohon, but not Cuprum, or Orichalcum, or *Æs Cyprium*, which is surprising. Then come iron, lead, and tin; then vitriol, which has seven symbols; sal-ammoniac, which has fourteen symbols; sulphur, which has sixteen; arsenic, antimony, sal-alchali, sal-alembrot, sal-tartaro, sal-anticar, and cinnabar. The extracts from book *A* are concluded by accounts of the calcination of various metals, of the philosopher's stone, and of the work of transmutation. The short extracts from the other books contain matter of a similar nature; various well-known salts are described, together with new and varied modes of making them; and different solutions of the metals, compounds, and operations.

The ideas suggested by this MS. are manifold. We can but be struck by the excessive complexity of chemistry at this period. When a substance possesses more than thirty distinct names, and more than twenty symbols, and when these are used indiscriminately in one sentence, some idea may be formed of a chemical treatise of two centuries and a half ago. Symbols were used lavishly, not alone to express substances both simple and compound, but for operations and instruments. But the alchemists and old chemists had a special object in preserving the mysticism out of which their science had sprung, and which still, as a thick vapour, shrouded it in obscurity. Their precious *secrets* would otherwise have been at the command of the vulgar, and the result of their years of toil would have been sown broadcast over the world. The true science was but just beginning to loom through the darksome mists which surrounded it. At this time the science was made up of alchemy and iatro-chemistry, with a strong flavour of Kabbalism. As to the matter itself, we find in the works of the period scarcely anything more than had been enunciated by Geber some eight centuries earlier; in fact, there was too much beating about the bush to allow of any real progress. Antonio Neri was a somewhat sensible chemist for the period. His leanings towards alchemy were not excessive; he was not a violent Paracelsian; indeed, he was rather a metallurgical chemist than an iatro-chemist.

Such is a brief sketch of an MS., the matter of which, in a completer form, the priest Antonio Neri had intended to publish had his life been longer spared. Whether the original MS. exists we know not. Perchance it may be hidden in some old monastic library among volumes of Canon Law and countless folios of Middle Age Casuistry; perchance in some dusty nook in *Ædibus Vaticanis*, among the thunderbolts of a past Hierarchy. Who can tell? Oh! if some Sovereign Pontiff would issue a mandate *apud S. Petrum sub annulo Piscatoris*, to command the cataloguing of the library of the Vatican, how would not Literature, and Science, and Art be benefited by the means! and how would not Italy receive yet greater honour as the focus from which emanated the glorious light of Western civilization!

GEORGE FARRER RODWELL

CATLIN'S AMERICAN GEOLOGY

The Lifted and Subsided Rocks of America, with their Influences on the Oceanic, Atmospheric, and Land Currents, and the Distribution of Races. By George Catlin. (London: Triibner, 1870.)

IN this free-speaking record of what Mr. Catlin has seen of American geology, and of his interpretation thereof, we have the results of strong observational powers and of limited scientific knowledge, stated earnestly and ruggedly, with a faithful adherence to what was first mastered in books, and to the views of nature that early teaching gave. Such works are not rare, but they are not often noticed at large, unless, as in this instance, the author's individuality, sincerity, and earnestness are true and striking. We find in this book on the "*Rocks of America*" that the author believes, first, in the hypothetical granite of a primæval world; secondly, in a "schistose zone, quite around the globe, and undoubtedly more or less an open and defined fissure between the two systems" of granite below and "sedimentary formations" above (p. 81); thirdly, "that these vast sedimentary beds, underlying secondary rocks on almost every portion of the globe, have been laid by the agency of water, with the disintegrated particles of granite, and by some (as yet mysterious) process become solidified and crystallised much in the same form, and certainly with the same ingredients, as the granite from which they came" (p. 80). It appears, also, that these low-seated sediments comprise the "azoic and palæozoic rocks" of books; "that the remains of rhizopod and algæ life [*sic*] may be found below gneiss" (p. 140), but not in the limestone in the gneiss; that the acceptance of the Laurentian system of rocks, as worked out and explained by the Geological Surveyors of Canada, is to be deprecated; that the Laurentian limestones have been deposited in "the caverns formed underneath submarine mountains, which are free from all currents of the ocean, by the infiltration of water from the overlying calcareous rocks;" "that in these caverns the first movements of organic life (which could not have existed exposed to the currents of the ocean) began;" and that these limestones were thus "imbedded, and in horizontal strata, beneath azoic rocks, and containing the '*Eozone Canadensis*' [*sic*], and other rhizopod remains which have excited so much attention of late, and been ingeniously used to undermine the